


# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference O.Z. 6224-WO		<b>FOR FURTHER ACTION</b>		See Form PCT/PEA/416
International application No. PCT/EP2004/050812		International filing date (day/month/year) 14.05.2004		Priority date (day/month/year) 03.07.2003
International Patent Classification (IPC) or national classification and IPC C08K3/00, C08K3/36, C08K3/20, C08K5/5415, C09C1/00, C09D183/06				
Applicant DEGUSSA AG et al				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau) a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand  22.10.2004		Date of completion of this report  29.06.2005		
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer Telephone No. +49 89 2399- 8519 frism, C.		



**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/EP2004/050812

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**Box No. I Basis of the report**

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1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

**Description, Pages**

1-16 as originally filed

**Claims, Numbers**

1-25 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	10-19
	No: Claims	1-9, 20-25
Inventive step (IS)	Yes: Claims	10-19
	No: Claims	1-9, 20-25
Industrial applicability (IA)	Yes: Claims	1-25
	No: Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

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**Re Item V.**

The following documents are referred to in this communication:

D1 : US 2003/050419 A1 (SANDERS JASON L ET AL) 13 March 2003 (2003-03-13)

D2 : US 5 164 501 A (KLEINSCHMIT PETER ET AL) 17 November 1992 (1992-11-17)

D3 : US 6 054 651 A (LAURO PAUL ALFRED ET AL) 25 April 2000 (2000-04-25)

D4 : US 2003/191226 A1 (CHAPMAN DAVID MONROE ET AL) 9 October 2003  
(2003-10-09)

**1. Claim 1**

Document D1 discloses a formulation comprising a polysiloxane loaded with high amounts of a thermal conductive filler without increase of viscosity (§ 10, cl. 6). Tables A/B deal with a composition comprising propyltrimethoxysilane, aluminium oxide and zinc oxide. The amount of filler inorganic oxide particles and the viscosity of the compositions is not explicitly given (80-92 vol.%), but it can not be ruled out that these data are within the claimed range (Since D1 is directed to a highly filler-loaded composition with viscosity in flowable range). The applicant is requested to comment on this issue.

Document D2 is directed to a rubber mixture comprising (col. 8, l. 10-39) fine precipitated silicic acids, zinc oxide and 3-butenyl trimethoxysilane. The filler represents 25% by weight of the formulation. No indication of viscosity is given in D2, but again, it can not be ruled out that the compositions described in D2 show viscosity lower than 1500mPa.s.

Document D3 recites in Ex. 3 a resin comprising 8.5, 16 or 22 % by weight of inorganic oxidic filler and methyltrimethoxysilane. The composition is said to have a low viscosity (col. 2, l. 16-18).

Document D4 is directed to a formulation comprising inorganic acid particles and a binder. Ex. XIII refers to a dispersion with 18% solids comprising silica, HCl and 3-

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amino-propyltriethoxysilane. It is disclosed that the viscosity of the composition ranges from 1 to 10.000 centipoises (1 cp = 1 mPa.s).

The subject-matter of claim is at present not considered as being novel (Art. 33(2) PCT). Should the applicant be of the opinion that documents D1-D4 are not novelty-destroying for present claim 1, he should provide convincing arguments tending to prove it.

2. The process of claim 10 is neither known, nor rendered obvious from the cited prior art.

3. The subject-matter of claims 21 and 24 is known from the prior art (D1: cl.1; D2: col.5, l. 13-18; D4: § 8), and thus, not considered as being novel.

4. Miscellaneous

The meaning of claim 20 is unclear. The subject-matter of claim 20 is identical to what is claimed in claims 1-8.

Claim 24 and 25 are unclear or wrongly formulated. Claim 24 refers to an articles defined by means of use-features. Claims 24 and 25 are redundant.